

CLAIMS

We claim:

1. A method for manufacturing a wafer-level package, comprising:

providing a first wafer and a second wafer;
removing a portion from the first wafer to form a gasket;
forming a pad on the second wafer, the pad substantially matching the gasket;
interposing bonding material between the gasket and the pad; and
bonding the gasket to the pad with the bonding material to create a hermetically sealed environment between the first and second wafers.
2. The method of claim 1 wherein the first wafer consists of silicon.
3. The method of claim 2 wherein the gasket is no more than 20 um wide.
4. The method of claim 3 wherein the gasket is no more than 10 um wide.
5. The method of claim 3 wherein interposing bonding material includes depositing bonding material on the gasket.
6. The method of claim 3 wherein interposing bonding material includes depositing bonding material on the pad.
7. The method of claim 3 wherein the bonding material includes conductive bonding material.
8. The method of claim 7 wherein the conductive bonding material is a metal selected from the group consisting of gold, gold-tin, tin-lead, and palladium-tin.
9. The method of claim 3 wherein the bonding material includes non-conductive bonding material.
10. The method of claim 9 wherein the non-conductive bonding material is a material selected from the group consisting of polyimide, B-staged bisbenzocyclobutene (BCB), and glass.

11. The method of claim 10 wherein interposing an adhesion promoter between the gasket and the pad occurs after interposing bonding material.
12. A wafer-level package, comprising:
 - a first wafer and a second wafer;
 - a gasket formed from the first wafer;
 - a pad on the second wafer, substantially matching the gasket; and
 - bonding material joining the gasket and the pad.
13. The wafer-level package of claim 12 wherein the first wafer is formed of silicon.
14. The wafer-level package of claim 13 wherein the gasket is no more than 20 um wide.
15. The wafer-level package of claim 14 wherein the gasket is no more than 10 um wide.
16. The wafer-level package of claim 14 wherein the bonding material includes conductive bonding material.
17. The wafer-level package of claim 16 wherein the conductive bonding material is a metal selected from the group consisting of gold, gold-tin, tin-lead, and palladium-tin.
18. The wafer-level package of claim 14 wherein the bonding material includes non-conductive bonding material.
19. The wafer-level package of claim 18 wherein the non-conductive bonding material is a material selected from the group consisting of polyimide, B-staged bisbenzocyclobutene (BCB), and glass.
20. A wafer-level package, comprising:
 - a first wafer and a second wafer;
 - a gasket formed from the first wafer; and
 - bonding material joining the gasket and the second wafer.
21. The wafer-level package of claim 20, wherein the gasket is less than 20 um wide.
22. The wafer-level package of claim 21, wherein the gasket is less than 10 um wide.

23. The wafer-level package of claim 21, wherein the bonding material is non-conductive.

24. The wafer-level package of claim 23, wherein the non-conductive bonding material is selected from the group consisting of polyimide, B-staged bisbenzocyclobutene (BCB), and glass.